



**ENGINEERING OPERATIONS COMMITTEE  
MEETING MINUTES  
JANUARY 8, 1998, 9:00 A.M.  
EXECUTIVE CONFERENCE ROOM**

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Present:      C. T. Maki                      G. D. Taylor                      J. D. Culp  
                  P. F. Miller                      J. D. O'Doherty                  T. E. Davies  
                  J. W. Reincke                      T. Fort                              M. Frankhouse  
                  S. Bower

Guest:          G. Etelamaki                      B. Zimmerman

**OLD BUSINESS**

**1.      Approval of the Minutes of the December 4, 1997, Meeting - C. T. Maki**

Minutes of the December 4, 1997, meeting were approved as written.

**2.      Warranty Project Selection for 1998 Program - J. D. Culp/S. Bower**

Three projects were proposed for the 1998 Warranty Pilot Program, one concrete and two bituminous jobs. The department has been and will continue to meet with industry regarding the warranty concepts and specifications. Several additional meetings have been scheduled with both the construction and bonding industries to develop consensus on the warranty specification. In order to build in accountability, it was recommended that all three projects require a "*certified work zone supervisor*" and that the projects be added to the 10 pilots already approved for monitoring and evaluation.

**1998 Warranty Projects - Preserve Program**

- 1.)      C.S. 11017/38094, I-94 Eastbound (5.0 Miles of Concrete Reconstruction)
- 2.)      C.S. 25042/36020, I-69 (6.0 Miles of Rubblize and Bituminous Overlay)
- 3.)      C.S. 41029/35990, I-196 (5.5 Miles of Rubblize and Bituminous Overlay)  
            C.S. 41029/45068, I-196 (5.5 Miles of Rubblize and Bituminous Overlay)

**DECISION:** The three proposed projects are approved and will include the requirement for a "certified work zone supervisor". We will continue to work with industry on all issues related to the pilot warranty program.

NEW BUSINESS**1. Region Engineer Representative for 1998 - C. Thomas Maki**

Tom Maki announced Thom Davies selection as the Region Engineer representative for 1998. We welcome Thom back to EOC after a couple years off and look forward to his insight and perspectives.

**2. Raised Pavement Markers - J. D. O'Doherty**

Last fall's construction van tour noted a lack of maintenance on raised pavement markers (RPMs), primarily broken or missing lenses. RPMs are part of the overall pavement marking system and are concentrated on improving or providing wet, night-time visibility when the glass beads in pavement marking paints/tapes are muted out by moisture. When lenses are broken or missing, the effectiveness of RPMs in pavement delineation is significantly reduced and their effectiveness lost. Conclusions from the van tour determined the policies for the use and maintenance of the device need to be reviewed.

The Traffic and Safety Division recommends that the 1998 program target statewide lens replacement and no more new installations until successful maintenance can be demonstrated.

There are now three different models in use, two older ones and a new version whose design features a lower profile and a narrower width. The original design (Model 96LP) is wider and allows the tip of a snowplow blade to catch the lens, breaking it and making the RPM ineffective. In 1992, it was replaced by Model 98, which is more visible but its profile increased from 0.025 in. to 0.041 in. and causes underbody snowplow blades to lift and slam down into the pavement, thus ensuring a rough ride for the truck operator. The newest RPM, Model 101LP, has limited installations and limited service time, but early reviews indicate more positive results and fewer problems.

Some regions aggressively maintain their RPM installations while others do not. For them to be effective, they must be maintained regularly and there must be a demonstrated cost/benefit ratio. New units cost about \$39 installed, replacement lenses are \$13. It was noted that a consistent funding source to maintain existing installations has not been available - we have had "zero" funded years. If funds remain available from the pavement marking program, then RPMs can be maintained.

**DECISION:** There will be no statewide lens replacement program in 1998, but maintenance replacement with new lenses or new units (101LP) will be at the discretion of the regions. The inspection program must continue. There will be no expansion of the RPM program until further evaluations can be made.

**ACTION:** The Traffic and Safety Division will gather field performance data on Model 101LP; determine a time frame to remove and/or replace the older RPMs; and estimate an approximate budget to ensure timely removal and replacement (based on risk management assessment).

Information and data will be sought on the acceptable level of retroreflectivity after one, two, three and four years of road exposure.

3. **Final Report, *Test Method to Determine the Existence of Segregation in Bituminous Mixtures* - M. Frankhouse**

The Bituminous Advisory Committee reviewed and supports the final report as prepared by Michigan State University (Wolfe and Baladi) and overseen by a technical advisory group that included industry representation. The research (Phase I) was successful in developing a test method to determine segregation problems in various bituminous mixtures. Existing sites were evaluated, properties were measured, and correlation studies conducted that led to the development of evaluative software.

The report recommends that Phase II research should proceed. Phase II will continue investigative research at more sites to achieve a statistical level of confidence (95 percent); to develop specifications to control segregation; and to prepare a pilot project for 1999 for field evaluation and analysis.

**ACTION:** The final report for Phase I research is accepted and approval is given to continue Phase II research and development. MAPA will continue to be directly involved in this research.

(Signed Copy on File at C&T/Secondary)  
Jon W. Reincke, Secretary  
Engineering Operations Committee

JWR:kat

cc: EOC Members  
Region Engineers

J. R. DeSana	R. J. Risser, Jr. (MCPA)	T. Adams (MCA)	B. Richter
R. J. Lippert, Jr.	A. C. Milo (MRBA)	J. Ruszkowski	R. D. Till
D. L. Smiley	J. Becsey (MAPA)	C. Libiran	M. Frierson
M. Nystrom (AUC)	G. L. Mitchell	G. J. Bukoski	C. W. Whiteside
M. Newman (MAA)	J. Steele (FHWA)	K. Rothwell	